Patent Claims:

1. A casting roll for the continuous casting of thin metallic strips, in particular of steel strips, in a two-roll or one-roll casting installation, having a roll core (1) with an outer lateral surface (4) and an annular roll shell (2) which surrounds the roll core, is shrunk on and has an inner lateral surface (5) and having a central casting-roll axis (8), characterized in that at least one of the lateral surfaces (4, 5) which lie opposite one another and form a shrink connection has elevations and depressions in the lateral surface, at least some of which are oriented in the direction of the casting-roll axis (8) and the radial extent of which is at least 2 µm.

2. The casting roll as claimed in Claim 1, characterized in that the elevations and depressions form a surface structure on at least one of the lateral surfaces (4, 5) which lie opposite one another, in which surface structure the lateral surface has a roughness (R_z) of between 2 µm and 1500 µm.

3. The casting roll as claimed in Claim 1, characterized in that at least one of the lateral surfaces which lie opposite one another has a roughness (R_z) of between 10 µm and 500 µm.

4. The casting roll as claimed in one of the preceding claims, characterized in that at least one of the lateral surfaces (4, 5) which lie opposite one another has elevations and depressions in and directly around a casting-roll plane of symmetry which is normal to the axis, substantially along the entire circumference of one of the lateral surfaces (4, 5), with a radial extent of at least 2 µm, which are preferably oriented in the circumferential direction.

5. The casting roll as claimed in Claim 4, characterized in that the elevations and depressions in and around the casting-roll plane of symmetry which is normal to the axis, on at least one of the lateral surfaces (4, 5) which lie opposite one another, form a surface structure in which the lateral surface has a roughness (R_z) of between 2 µm and 1500 µm.

6. The casting roll as claimed in one of the preceding claims, characterized in that the elevations and depressions form supporting surfaces (9) which are directed substantially radially and in the direction of the casting-roll axis (8) and have a longitudinal extent less than or equal to the lateral-surface length (L).

7. The casting roll as claimed in one of the preceding claims, characterized in that the roll core (1) and the annular roll shell (2), in the region of the lateral surfaces (4, 5) which lie opposite one another, are formed from materials of different hardness, and at least the lateral surface of the component which has the higher lateral surface hardness is provided with the predetermined roughness (R_z).

8. The casting roll as claimed in one of the preceding claims, characterized in that the roll core (1) consists of steel and the annular roll shell (2) consists of Cu or a Cu alloy.

9. The casting roll as claimed in one of the preceding claims, characterized in that a joining layer (10) is arranged between the roll core (1) and the roll shell (2), and in that the material which forms the joining layer (10) is deposited on one of the two mutually associated lateral surfaces (4, 5).

10. The casting roll as claimed in Claim 7, characterized in that one of the mutually associated

lateral surfaces (4 or 5) is provided with the predetermined roughness (R_z), and the material which forms the joining layer (10) is deposited on the other lateral surface.

11. The casting roll as claimed in one of Claims 9 or 10, characterized in that the joining layer (10) is formed by a metal or a metal alloy.

12. The casting roll as claimed in one of Claims 9 to 11, characterized in that wear-resistant granules are embedded in the joining layer (10).

13. The casting roll as claimed in Claim 12, characterized in that the wear-resistant granules consist of metal oxides, such as aluminium oxide, zirconium oxide or similar materials.

14. The casting roll as claimed in Claim 12, characterized in that the wear-resistant granules are formed by carbide grains or platelets, such as titanium carbide, tungsten carbide, silicon carbide or similar materials.

15. The casting roll as claimed in Claim 13 or 14, characterized in that the grain size of the wear-resistant granules is less than 40 µm, preferably less than 10 µm.

16. The casting roll as claimed in one of the preceding claims, characterized in that the roll core, parallel to the casting-roll axis (8), has grooves (7) distributed over its lateral surface (4), into which grooves securing bars (17) are fitted, which project at least 2 µm above the lateral surface (4) of the roll core (1) in the radial direction.

17. The casting roll as claimed in Claim 16, characterized in that the securing bars (17) project

between 500 µm and 15 mm above the lateral surface (4) of the roll core (1) in the radial direction.

18. The casting roll as claimed in Claim 16 or 17, characterized in that fewer than 16, preferably fewer than eight securing bars (17) and grooves (7) are distributed over the roll core (1).

19. The casting roll as claimed in one of Claims 16 to 18, characterized in that the length of the grooves (7) and of the securing bars (17) is shorter than the lateral-surface length (L) of the roll core (1).

20. The casting roll as claimed in one of Claims 16 to 19, characterized in that the inner lateral surface (5) of the roll shell (2) includes grooves (18) which lie opposite the grooves (7) in the lateral surface (4) of the roll core (1), and grooves (7, 18) which lie opposite one another accommodate in each case one securing bar (17).

21. A process for producing a casting roll for the continuous casting of thin metallic strips, in particular of steel strips, using the two-roll or one-roll casting process, which casting roll has a roll core (1) with an outer lateral surface (4), and an annular roll shell (2) which surrounds the roll core, has been shrunk on and has an inner lateral surface (5) and a central casting-roll axis (8), characterized

- in that the lateral surface (4) of the roll core (1) and the inner lateral surface (5) of the roll shell (2) are prepared for joining by shrink-fitting,
- in that elevations and depressions, at least some of which are oriented in the direction of the casting-roll axis (8) and the radial extent of which is at least 2 µm, are produced on at least one of the mutually associated lateral surfaces (4, 5),

- in that the roll shell (2) is drawn onto the roll core (1) at a temperature which is higher than that of the roll core (1).

22. The process as claimed in Claim 21, characterized in that the elevations and depressions which are produced on at least one of the mutually associated lateral surfaces (4, 5) form a surface structure in which the lateral surface has a roughness (R_z) of between 2 µm and 1500 µm.

23. The process as claimed in Claim 21 or 22, characterized in that the elevations and depressions which are formed on at least one of the mutually associated lateral surfaces (4, 5) form a surface structure in which the lateral surface has a roughness (R_z) of between 10 µm and 500 µm.

24. The process as claimed in one of Claims 21 to 23, characterized in that the elevations and depressions which are formed on at least one of the mutually associated lateral surfaces (4, 5) are produced with supporting surfaces (9) which are directed substantially radially and in the direction of the casting-roll axis (8) and have a longitudinal extent less than or equal to the lateral-surface length (L).

25. The process as claimed in one of Claims 21 to 24, characterized in that the roll core (1) and the annular roll shell (2) are produced from materials of different hardness, and the component which is formed with the higher lateral-surface hardness is provided with the predetermined roughness (R_z).

26. The process as claimed in Claim 25, characterized in that the roughness (R_z) is applied by knurling, forging or milling.

27. The process as claimed in one of Claims 21 to 26, characterized in that the roll core (1) is produced from steel and the annular roll shell (2) is produced from Cu or a Cu alloy.

28. The process as claimed in one of Claims 21 to 27, characterized in that a joining layer (10) is deposited on one of the mutually associated lateral surfaces (4, 5).

29. The process as claimed in one of Claims 21 to 28, characterized in that a predetermined roughness (R_z) is applied to one of the mutually associated lateral surfaces (4, 5), and a joining layer (10) is deposited on the other lateral surface.

30. The process as claimed in one of Claims 28 and 29, characterized in that the joining layer (10) is produced by electrodeposition.

31. The process as claimed in one of Claims 28 and 29, characterized in that the joining layer (10) is formed by plasma deposition.

32. The process as claimed in one of Claims 28 to 31, characterized in that the joining layer (10) is formed from a metal or a metal alloy.

33. The process as claimed in one of Claims 28 to 32, characterized in that wear-resistant granules are incorporated in the joining layer (10).

34. The process as claimed in Claim 33, characterized in that metal oxides, such as aluminium oxide, zirconium oxide and similar materials, are incorporated in the joining layer (10) as wear-resistant granules.

35. The process as claimed in Claim 33, characterized in that carbide grains or carbide platelets, such as

titanium carbide, tungsten carbide, silicon carbide or similar materials, are incorporated in the joining layer (10) as wear-resistant granules.

36. The process as claimed in Claim 34 or 35, characterized in that wear-resistant granules with a grain size of less than 40 µm, preferably less than 10 µm, are incorporated in the joining layer (10).

37. A process for producing a casting roll for the continuous casting of thin metallic strips, in particular of steel strips, using the two-roll or one-roll casting process, which casting roll has a roll core (1) with an outer lateral surface (4), and an annular roll shell (2) which surrounds the roll core, has been shrunk on and has an inner lateral surface (5) and a central casting-roll axis (8), characterized

- in that the lateral surface (4) of the roll core (1) and the inner lateral surface (5) of the roll shell (2) are prepared for joining by shrink-fitting,
- in that grooves (7) are formed on the lateral surface (4) of the roll core (1) parallel to the casting-roll axis (8), into which grooves securing bars (17) are fitted which project at least 2 µm, preferably between 500 µm and 15 mm, above the lateral surface (4) of the roll core (1) in the radial direction,
- in that the roll shell (2) is drawn onto the roll core at a temperature which is higher than that of the roll core (1), a shrink-fit connection (3) being produced between the securing bars (10) and the roll shell (1) and at least one sealed join being produced between the roll core (1) and the roll shell (2).